



ALGEBRA SUCCESS

The Urban Assembly

Algebra Success supports students in mastering Algebra 1 content in eighth or ninth grade by centering meaningful work, classroom discourse, and integrated social-emotional learning so students have access to higher level mathematics courses and expanded postsecondary opportunities.

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OVERVIEW

Algebra Success, developed by The Urban Assembly (UA), helps schools equip eighth and ninth graders with the content and opportunity to experience success in Algebra 1. Historically, Algebra 1 is a gatekeeper to higher level mathematics, particularly for under-resourced communities. By gaining access to deep understanding in Algebra 1, students are positioned to better tackle higher level mathematics courses in high school and postsecondary schooling. Algebra Success achieves this by offering a curriculum that centers students through the use of discourse strategies and integrates social-emotional learning.

Teachers utilizing Algebra Success are supported through ongoing coaching and professional learning communities while students experience high-quality curricular resources, discourse-rich classroom environments, intentional assessments, and the integration of social-emotional learning practices into their classroom experience. Algebra Success centers students in the classroom through instruction that highlights student voice



and agency via the use of high-leverage discourse strategies. Currently, Algebra Success supports schools across the state of New York and has seen great success in positively impacting student achievement as measured by Regents exams. [Algebra Success One Pager](#)

What Makes This Model Innovative?



High Expectations with Unlimited Opportunities

Algebra Success leverages discourse strategies that give all students access to deep learning in mathematics so that every student has access to advanced mathematics courses and expanded postsecondary opportunities.



Rigorous Learning

Students engage in meaningful mathematical work that supports deep conceptual understanding and demonstrate application of mathematical concepts through performance assessments.



Whole-Child Focus

Algebra Success incorporates social-emotional learning targets into each Algebra lesson alongside the content objectives to nurture the cognitive, social, and emotional aspects that impact learning.

DESIGN

Goals

Students in Algebra Success are supported in developing deep mathematical understanding through knowledge and skill building in a supportive and relevant setting. By mastering Algebra 1 content in eighth or ninth grade, students have access to higher level mathematics and expanded postsecondary opportunities.

Mathematical Knowledge and Skills

Students develop the ability to make meaning of rich mathematics and increase their problem-solving skills.

Mathematical Reasoning Skills

Students develop the skills to think and reason about real-world mathematics by creating viable mathematical arguments, critiquing the reasoning of others, and reasoning abstractly and quantitatively.

Social-Emotional Skills

Students develop social-emotional skills such as self-awareness, self-management of learning, and social awareness and management through targeted SEL practice in addition to the math content centered in each lesson.

Experience

Students in an Algebra Success classroom experience math instruction that centers their learning through the use of meaningful mathematical assignments, specific discourse strategies that elicit more student dialogue in the classroom, a balanced approach to assessment that integrates real-world problem-solving, and integrated social-emotional learning.


Meaningful Mathematical Work

Algebra Success emphasizes meaningful mathematical work, which they define as work that situates mathematics in relevant, real-world applications and focuses on all levels of mathematical understanding, from procedural fluency to conceptual understanding. Students in the Algebra Success program are given meaningful tasks that connect to their lived experiences and are largely situated in real-world contexts that help them see the way Algebra is used beyond the classroom. Additionally, this meaningful work that requires multiple layers of mathematical understanding supports deep conceptual understanding and application of mathematical concepts. For example, instead of answering questions about a dot plot or histogram with a decontextualized set of numbers, students are asked to justify the best data visualization to represent a dataset around the time it takes each student to travel to school and to craft an argument using their data and reasoning. [📄 Algebra Success Lesson 1](#)

The typical progression of lessons when a new skill or concept is introduced moves from conceptual to procedural to application. Depending on the type of lesson, the teacher's instructional moves will vary. However, a typical lesson begins with a Do Now to review prior content that will be critical in accessing the content for the day's lesson. Next, students work to solve an application-type problem or experience a teacher model where they will engage in one of the many discourse strategies used in the program. Finally, students complete independent practice that is labeled "mild," "medium," or "spicy" depending on their level of understanding. Teachers typically encourage all students to complete the "mild" practice and encourage fast finishers to proceed forward with "medium" and "spicy" level questions.

Discourse Routines


Algebra Success utilizes a variety of discourse strategies, also known as routines, aimed at getting students talking about the math they are learning and initiating dialogue with their peers. The discourse strategies are step-by-step routines that teachers can incorporate into daily lessons with a new routine being introduced each month. Typically, the routines include scripted slide decks that scaffold the learning of the new routine and give students a chance to practice with math content that is accessible to all. The routines serve different content-related purposes, but over the course of a year, students gain the skills to engage in many different formats of mathematical discourse, such as learning to respectfully agree and disagree, name when their thinking has changed, or use evidence to support new claims about mathematics. The strategies give students the opportunity to create viable arguments, critique the reasoning of others, and reason abstractly and quantitatively.

Students begin the year by learning a routine that helps them make sense of problems, a mathematical practice they will need throughout the year to be able to engage effectively in problem-solving. The routine, “Three Reads,” developed by Grace Kelemanik and Amy Lucenta of “Fostering Math Practices,” has students read the problem three times.  [Three Reads Discourse Routine](#) First, they are prompted to understand the context of the problem, then they are tasked with interpreting the question, and on the third read, they are asked to identify important information. The idea behind the routine is that students would create a heuristic for reading and making sense of mathematical story problems.

The other discourse routines are similar in that they are intended to be used repeatedly to create new pathways for thinking and talking about mathematics that extend past the specific course and content in which they are taught.


Balanced Approach to Assessment

Students show mastery of the content in a variety of ways, including through typical standardized testing as well as performance tasks that require application and integration of a variety of skills and understandings. Additionally, students take quizzes 2-3 times per unit to provide the teacher with formative assessment data. After each quiz day, a day is scheduled to review quiz content with students and ensure understanding before moving on to new content.

At the end of each unit, students apply what they have learned in mathematical content as well as mathematical practices to a performance assessment. There are eight different assessments throughout the year, and they require students to defend and justify their thinking using mathematical reasoning and logic. For example, in the first unit, students are tasked with selecting the best basketball player to recruit based on a set of data that they must first interpret.  [Unit 1 Performance Task](#) They are also given a rubric to support their understanding of how to construct a viable final draft argument using the mathematics learned across the unit.

Each performance task takes place over the course of approximately a week. Students are first introduced to the task and allowed to ask any questions related to the context of the task before making a “game plan” for how they will break down the task day by day. Then, students spend a day creating a project plan for how they will spend their time, submit a rough draft of the solution for feedback from the teacher, work collaboratively with peers to revise their draft based on feedback, and finally, on day five, they submit their final draft.

Integration of Social-Emotional Learning

Each Algebra Success lesson integrates social-emotional learning targets from the Urban Assembly SEL Competencies into the content-focused instruction.  [Urban Assembly SEL](#)

Competencies Algebra Success students predominantly focus on the SEL skills listed below through discussion, sharing of ideas and strategies, and reflection.

- Self-Awareness
- Self-Management
- Social Awareness
- Social Management

For each unit, teachers are given a specific SEL skill from the list above to focus on. From there, each lesson has a prompt or set of prompts that is intended to get students to reflect on and apply social-emotional skills to the specific content or process of engaging in the lesson for the day. For example, students might be prompted to reflect on something they did well in a lesson, something they are good at in math, how they ensured they were ready to learn, or how they tried to remain free from bias.

In addition to the SEL reflection prompts aligned to each lesson, students are also given prompts that support deeper thinking related to diversity, equity, and inclusion. For example, in the lesson where students use histograms to display travel data as their content focus, they are also prompted to consider why people might have different travel times to school, how the data might look different if it reflected a more diverse group of people, and what factors might influence someone's ability to get to school.

Supporting Structures

Urban Assembly's Algebra Success model can be integrated into a school's overall model but will require some shifts, particularly around teacher planning and integration of social-emotional skills.

Implementing Algebra Success involves using the comprehensive suite of curriculum and assessment tools to support deep mathematical understanding for students.



**CURRICULUM,
INSTRUCTION, &
ASSESSMENT**

Participating teachers and schools can use the Algebra Success curriculum and assessment tools or another vetted curriculum that meets the program requirements for vetted instructional resources that allow for meaningful mathematical work, rich opportunities for discourse, and integration of social and emotional learning.

If they opt into the curriculum, teachers are given access to the full suite of Algebra Success curriculum and assessment tools, which includes unit plans, lesson plans with supporting materials, and a variety of assessment measures. Algebra Success materials balance procedural and conceptual understanding and work to situate the mathematics in relatable real-world contexts. In the unit plan outline that teachers receive, each week has a focus area, and each lesson has an identified conceptual, procedural, or application focus. [Algebra Success Unit 1 Plan](#) Each lesson is also coded with a priority level aimed at supporting teachers in making decisions about

what to prioritize within the unit if lessons need to be cut. A majority of lessons are aimed at developing conceptual understanding or application of mathematical skills, while some lessons also target procedural fluency with learned concepts.

Algebra Success materials also include a comprehensive curriculum map aligned with New York state standards, a pacing calendar that outlines the scope and sequence of the year with lesson and assessment ideas, five detailed unit plans with embedded assessments and alignment to New York state testing preparation materials, and lesson plans created by previous participants and vetted by Urban Assembly staff.

In addition to embedded assessments within the curricular materials, schools also get access to mock New York state assessments and data reports to monitor student progress. Schools also get access to an online testing tool that allows teachers to see reports that support their decision-making and planning for reteaching throughout assessment and learning cycles.

Algebra Success is designed for schools that serve historically under-resourced communities and have adults committed to closing gaps in mathematics.



**SCHOOL COMMUNITY
& CULTURE**

Typically, Algebra Success has been implemented in schools that serve historically under-resourced communities and experience large gaps in learning for Algebra 1 students. Urban Assembly has identified that schools with incoming 8th or 9th grade students who have an average incoming math proficiency below the citywide average of 2.69, a significant gap (20% or greater) between Algebra Regents pass rate and College-Ready pass rate, and/or less than 70% of 9th graders passing the Algebra Regents in their first year of high school are good fits for this program.

Successful implementation requires commitment from teachers and school leaders. Teachers must be open to learning and growing, and school leaders must make it possible for teachers to receive regular coaching and professional development as well as prioritize strong partnership with Algebra Success to drive implementation.



**ADULT ROLES, HIRING,
& LEARNING**

The math instructional lead and algebra teachers must participate in ongoing training and coaching to support successful implementation of the model.

Teachers receive extensive support from the Algebra Success team to learn, plan, implement, and reflect on their instruction in Algebra. They begin with a two-day intensive summer training to gain familiarity with the model.

Next, they are invited to monthly PLCs with the focus of deepening content knowledge, learning and practicing discourse strategies, diving into curriculum assessment data with focus on next steps, and collaborative work time for lesson planning that provides opportunities for teachers to share practices. Schools also receive targeted PLCs with focus areas that are specific to the individual school, facilitated by the Algebra Success team. Scheduled common planning time allows teachers to support each other in building and sharing lessons across schools. Teachers also receive coaching, which includes observations of lessons and focuses on deepening content knowledge, data-driven decision-making, and getting specific feedback around instruction.

Schools must identify a math instructional lead who will be on-the-ground support for teachers in the building. These leaders receive support through coaching and observations as well as recommendations for structural and programmatic changes that would further support student learning. They are responsible for providing regular feedback to participating teachers, conducting walk-throughs with the UA coaches during visits, and confirming logistics of testing schedules and access to online platforms.

Schools must schedule time for mock assessments as well as teacher and leader learning.



SCHEDULE & USE OF TIME

One important component of the Algebra Success model is the development of teacher skills in making data-based decisions. For this reason, UA requires that schools commit to incorporating time into the schedule for mock state tests as well as four other assessments embedded in the program that will support teachers' instructional decision-making.

Teachers will also need to be available for observations and debriefs monthly where they will receive individualized feedback. Additionally, teachers will need common planning time and availability to attend the PLCs offered to them. The school principal and/or the math instructional lead will need availability to meet with UA staff at the beginning and end of the year to set and reflect on goals and approximately every 6 weeks for 45 minutes to monitor progress toward those goals.



Schools must dedicate a budget to implementing the Algebra Success Model.

Schools interested in partnering with Urban Assembly to implement the Algebra Success model must pay an annual fee. The total cost for full implementation varies depending on the level of support. The cost covers coaching for teachers, access to curriculum and assessments, and support through data reflection and monitoring.

BUDGET & OPERATIONS

Teachers and school leaders continuously reflect on data and make a plan to improve instruction in service of students.



Teachers and leaders implementing Algebra Success are supported in understanding, analyzing, and acting upon student assessment data in ongoing cycles throughout the year. School leaders meet at the beginning of the year to set goals with the Urban Assembly staff. Then, every six weeks, they meet again to review and analyze data and determine next steps or shifts that will support continued student growth in understanding.

CONTINUOUS IMPROVEMENT

Teachers also engage in continuous improvement cycles through coaching and PLCs with their school-based team and Urban Assembly staff. Teachers are observed in person approximately once a month and given individualized feedback with actionable next steps. Additionally, they are able to engage with PLCs to continue reflecting on their own understanding of the content and best practices for teaching that content moving forward.

IMPLEMENTATION

Supports Offered

Algebra Success assessments are aligned with New York State Regents exams. Algebra Success does provide curricular implementation support for schools in other states and schools using an alternative curriculum.

[Urban Assembly](#) offers the following supports to help implement Algebra Success.

Full Program Implementation

Cost Associated



Urban Assembly offers partnership to schools interested in implementing Algebra Success. Some of the benefits of full partnership include:

- Access to curricular resources, including mock end-of-year exams with data reporting tools to monitor student progress
- Online testing tool with reports to support data-based decision-making
- Two-day summer intensive for teachers and targeted PLCs with other Algebra Success schools
- End of Unit Assessment data review meetings

[Express Interest](#)

Curricular Resources

Free



Urban Assembly offers their suite of curricular resources, including their performance assessment tasks, for free. To get access, fill out the form on their website and express interest in access to the Algebra Success curriculum.

[Express Interest](#)

Reach

31

Schools
across NY

3,574

Students

61

Teachers

89%

Black and
Latinx
Students

Impact

In three schools that piloted Algebra Success over the course of two years, the number of students taking and passing the Regents and College-Ready exams increased from year 1 to year 2. [Algebra Success One Pager](#)

- The percentage of students demonstrating College-Ready pass rates increased by 5.3%.
- The percentage of students sitting for the Regents exam increased by 18%.
- The percentage of students passing the Regents exam increased by 15%.

Teachers also report favorable outcomes for themselves and students in qualitative feedback surveys. Some trends from this data include:

- 100% of participating teachers agree or strongly agree that “the skills and knowledge” learned through the program are useful in their work (End of Year Teacher Survey, 2019).
- Teachers appreciated opportunities to deepen their mathematical content knowledge and collaborate with other Algebra Success teachers.
- Teachers described improved understanding of Algebra ideas.
- Teachers felt their ability to plan student-centered lessons and utilize assessment data improved.
- *“Coaching...made me think about how to make my class more engaging and get more responses from my students.” -Sooyoun W., Algebra Success Teacher*

Contact

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RESOURCES

Algebra Success =

Curricular Alignment

Algebra Success provides access to a suite of curricular resources, sourced from a variety of leading designs, and targeted for the needs of our students. We support teachers with integration into lesson planning through tools, resources, and targeted professional learning.

Pedagogical Practices

Algebra Success builds teacher pedagogy through a combination of professional learning communities, resources and, in some instances, coaching. Teachers are equipped with **Algebra Success Discourse Strategies** to increase student opportunities to initiate dialogue, centering student voice and agency in the classroom.

Assessment Practices

We provide a **robust assortment of assessment tools to monitor progress and provide feedback**, including summative assessments and performance tasks along with tools to quickly analyze data to make informed instructional decisions. Our **PLCs and data-driven coaching** supports teachers to make these just-in-time shifts.

An essential component of equity in mathematics is the use of pedagogical practices which increase student voice and agency. Within the Algebra Success Program Model this is accomplished through the use of specific Discourse Strategies. Discourse Strategies give all students access to deep learning.



Algebra Success One-Pager

A one pager that outlines the components of Algebra Success, how to tell if your school is a good fit, and the current impact of the work.



Algebra Success Lesson Plan Template

Lesson Number	Lesson Number 1.01 (Priority: Medium)
Learning Target (For Students)	I can construct and interpret a histogram.
Focus Standard	<p>6.SP.4: Represent data with plots on the real number line (dot plots, histograms, and box plots).</p> <p>6.SP.4.1: Represent data with plots on the real number line (dot plots, histograms, and box plots).</p> <p>6.SP.4.2: Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p>
Lesson Overview	In this conceptual lesson, students will understand that the best way to display the travel-time data is with a histogram and not a line plot or a dot plot. The lesson opens up with a Do Now asking to ID what is the best way to display the data. Histograms are best to display data requirements. You should then model how to create a histogram using the data provided, and then asks students to create a histogram and interpret the data. The rest of independent practice should revolve around creating and interpreting histograms.

Algebra Success Lesson 1

A sample lesson plan that a teacher would utilize to plan daily instruction.



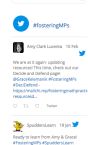
3 Reads (MPI)

The 3 Reads instructional routine is designed to develop students' ability to understand problems by decomposing the problem into meaningful mathematical situations. Over time, students will be able to identify the problem, identify the quantities, and make a plan for solving the problem.

3 Reads



Search for #3Reads



Three Reads Discourse Routine

The first protocol students learn in the Algebra Success program that supports understanding a complex task.



Unit 1 Performance Task - Best Basketball Player?

Name _____ Date _____ Class _____

Algebra Success Unit 1 Performance Task: Best Basketball Player?

Algebra Success Unit 1 Performance Task

A sample performance task administered at the end of each unit. Each unit has two options teachers can select based on student interests.



SEL Competencies	Indicators
Self-Awareness	<p>1A Students demonstrate awareness of their needs and emotions. (Ability to express one's needs and emotions)</p> <p>1B Students demonstrate awareness of their personal traits. (Ability to recognize one's strengths and weaknesses)</p> <p>1C Students demonstrate awareness of their external supports. (Ability to recognize and utilize the support they have around them)</p> <p>1D Students have a sense of personal responsibility. (Ability to take responsibility for one's actions)</p>
Self-Management	<p>2A Students demonstrate ability to manage their needs and emotions. (Ability to regulate one's emotions through their actions and words)</p> <p>2B Students are positive and demonstrate honesty/integrity. (Ability to express one's feelings and emotions)</p> <p>2C Students use effective decision-making and problem-solving skills. (Ability to evaluate and choose the best solution to a problem)</p> <p>2D Students demonstrate increasing levels of independence and the ability to set and achieve goals. (Ability to set personal goals and work towards them)</p>
Social Awareness	<p>3A Students demonstrate awareness of other people's roles, their emotions and perspectives. (Ability to understand and respect the feelings and needs of others)</p> <p>3B Students demonstrate consideration for others and a desire to positively contribute to their community. (Ability to work together to solve problems and help others)</p>

Urban Assembly SEL Competencies

A list of the SEL competencies and descriptions that are integrated into each Algebra Success lesson.



Algebra Success Common Unit Plan #1: Understanding Relationships Through Statistics and Data	
October 19th, 2021 - November 20th, 2021	
UNIT DESCRIPTION	
TABLE OF CONTENTS:	<ul style="list-style-type: none"> • Lesson 1.01: Histograms • Lesson 1.02: Box Plots • Lesson 1.03: Data Distributions • Lesson 1.04: Data Distributions • Lesson 1.05: Data Distributions • Lesson 1.06: Data Distributions • Lesson 1.07: Data Distributions • Lesson 1.08: Data Distributions • Lesson 1.09: Data Distributions • Lesson 1.10: Data Distributions • Lesson 1.11: Data Distributions • Lesson 1.12: Data Distributions • Lesson 1.13: Data Distributions • Lesson 1.14: Data Distributions • Lesson 1.15: Data Distributions • Lesson 1.16: Data Distributions • Lesson 1.17: Data Distributions • Lesson 1.18: Data Distributions • Lesson 1.19: Data Distributions • Lesson 1.20: Data Distributions
KEY INFORMATION:	<p>This unit spans 20 lessons and 8 weeks.</p> <ul style="list-style-type: none"> • 20 lessons (100 minutes per day) • 1 Math Assessment (Unit #1) • 2 Performance Tasks
SUMMARY:	<p>Students will use "3 Reads" to understand the unit's big ideas and concepts. Through the use of interactive protocols, students will develop a deep understanding of the relationships between data and statistics. This unit will help students to understand the relationships between data and statistics. In addition, this unit will help students to understand the relationships between data and statistics.</p>

Algebra Success Unit 1 Plan

A sample unit plan that outlines priority lessons and names the mathematical level of understanding the lesson targets.